

## ABSTRACT OF THE DISCLOSURE

A method of and an apparatus for measuring and evaluating characteristics of material resin using an injection molding machine. Injections of resin are performed with different resin temperatures  $T_i$  and different injection velocities  $V_j$  to detect injection pressures  $P_r$  at set screw positions. Data of combinations ( $P_r$ ,  $V$ ,  $T$ ) of an  $N$  number of injection pressures, injection velocities and resin temperatures are obtained. An interdependency relation function  $F_{VT}(t, v(x), x)$  expressing correlation among the injection pressure, the injection velocity and the resin temperature is obtained as  $P_{VT}(t, v(x), x) = A(x)e^{-\alpha(x)T}v(x)^{\beta(x)}$  according to a least square method using the obtained data, where  $\beta(x)$  represents a degree of dependency on injection velocity influencing the injection pressure and " $\log A(x) - \alpha(x)T$ " represents a degree of dependency on resin temperature influencing the injection pressure.